

THE GRAZING BULLETIN

JANUARY 1941

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When winter winds begin to blow sheep stream from the hills in military formation over a stock driveway in Thistle Canyon, Utah.

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THE GRAZING BULLETIN

Harold L. Ickes
Secretary of the Interior

Alvin J. Wirtz
Under Secretary, in Charge of Grazing

R. H. Rutledge
Director of Grazing

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January 1941, Vol. 4, No. 1

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GRAZING SERVICE

WASHINGTON, D. C.

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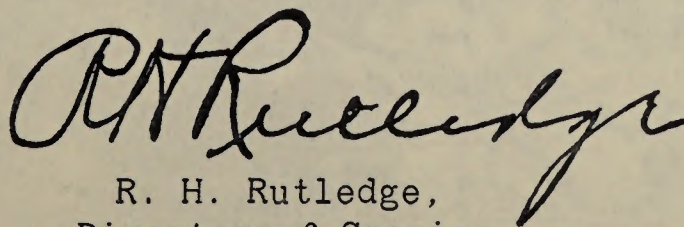
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TO THE STOCKMEN:

The year 1940 is behind us. It was a good old year in many respects. In general the range is in good shape. This is due largely to fall and winter moisture. It is also due to more system in using the range and to the direct personal interest you have given to range matters. Conservation on the ground, by the man who has to make a living from it, is the only true conservation.

We can make 1941 a better year. By all working together we can make better range, better livestock, a more stable industry. We may have some distractions, some disagreements, some problems, but let's not allow these to swerve us from our main purpose--the welfare of your business.


R. H. Rutledge,
Director of Grazing.



Steaks-on-the-hoof wend their way to market over a trail restored by the Grazing Service in Colorado. Today over twelve million head of cattle, horses, sheep, and goats are licensed to graze in Federal grazing districts of the West. These livestock contribute no small part toward the Nation's needs in the present National Defense effort.

CONSERVATION OF THE FEDERAL RANGE GIVEN ADDED IMPETUS
THROUGH PRESIDENT'S FOURTH REORGANIZATION PLAN

Under authority of the Reorganization Act of 1939 (Public No. 19, 76th Congress) approved April 3, 1939, President Roosevelt transmitted to The Congress on April 11, 1940, a fourth reorganization plan designed to:

1. Reduce expenditures
2. Increase efficiency
3. Consolidate agencies according to major functions
4. Reduce the number of agencies by consolidating those having similar functions and by abolishing such as may not be necessary
5. Eliminate overlapping and duplication of effort

Section 6 of the plan reads: "The functions of the Soil Conservation Service in the Department of Agriculture with respect to soil- and moisture-conservation operations conducted on any lands under the jurisdiction of the Department of the Interior are transferred to the Department of the Interior and shall be administered under the direction and supervision of the Secretary of the Interior through such agency or agencies in the Department of the Interior as the Secretary shall designate."

The transfer to the Department of the Interior of functions relating to soil and moisture conservation on Interior Department lands became effective July 1, 1940. Marking a major forward step in public administration, this transfer recognized the principle that such functions are the responsibility of the agency administering the land.

Interior is Custodian of Vast Areas and Resources.

The lands under the jurisdiction of the Department of the Interior constitute a major part of the principal watersheds of the West. From these areas are gathered the waters used for irrigation, power, and municipal purposes. They constitute the principal range resources and are the key to wise use and protection of the State and private lands with which they are intermingled. This ownership pattern requires a high degree of cooperative effort in

the formulation and execution of an overall soil- and moisture-conservation program. Obviously this presents certain complications. On the other hand the landownership situation offers unlimited opportunities for developing sound conservation practices with the owners taking an active part.

The character of the lands under Interior Department jurisdiction varies from barren desert to primeval forest. This wide range of conditions has necessitated an equally wide scope of aims and activities both on the part of the Federal Government and the people who depend on the resources of the land. To promote the greatest public interest, Congress has enacted various laws directing how the public lands shall be administered or otherwise disposed of. Thus many different administrative agencies have been created to handle these lands.

Office of Land Utilization.

To harmonize the land-use activities of the several bureaus of the Department and to foster better relationships with other governmental agencies Secretary of the Interior Harold L. Ickes created the Office of Land Utilization on April 15, 1940. The Department of the Interior was thus prepared to prosecute an all-inclusive and well-coordinated soil- and moisture-conservation program on lands under its jurisdiction when the Fourth Reorganization Plan became effective.

Mr. Lee Muck, formerly Director of Forests, Department of the Interior, was designated as Assistant to the Secretary in Charge of the Office of Land Utilization to coordinate and integrate the land- and water-conservation programs of the various bureaus.

One Half of all Interior Lands Administered by the Grazing Service.

The total area of Department of the Interior lands in the western States is approximately 280,000,000 acres. More than half of this land (141,228,423 acres) is within established grazing districts under Grazing Service supervision. Other large areas in reclamation withdrawals and game ranges are also within the boundaries of grazing districts. These Federal range lands are not generally consolidated in large blocks but are scattered and intermingled with other lands in all ownerships. However, the principles of the Taylor Grazing Act, carried out through local cooperation, have enlisted wide public participation. Many problems inherent in the complicated landownership pattern have been greatly simplified and each of the more than 20,000 range users is a self-appointed conservationist.

Soil and Moisture Conservation is the Lifeblood of the Livestock Industry.

Everybody knows that grass will not grow on the range without soil and that plants will not survive without moisture. Since the inception of the Grazing Service in 1934 soil and moisture conservation has been a basic objective of this Service. To a greater or less degree the facilities of CCC camps operated in grazing districts have been used for years to develop and impound water for livestock use, to prevent soil erosion, to preserve natural resources, to control floods, and to protect public lands. Therefore, the soil and moisture program which has been integrated with Grazing Service activities is not, strictly speaking, a new program, but is a means of more adequately fulfilling the complete conservation program fostered by the Taylor Grazing Act.

It was a natural sequence following the transfer that the Secretary assigned to the Grazing Service all soil and moisture conservation work to be performed on the Federal range. The Taylor Grazing Act opened the way for a more abundant life in the arid regions of the United States--animal, vegetable, and human. Better range management augmented by a well-rounded range improvement program is the basic practice necessary to accomplish the desired goal. The soil- and moisture-conservation program dovetailed into the overall job of Federal range administration can be expected to hasten the desired results. Past efforts to rehabilitate our western ranges will be used to complement the soil- and moisture-conservation work to be undertaken.

On November 1, 1940, all essential details had been worked out and the Grazing Service was ready to take over the added duties engendered by the transfer. Soil- and moisture-conservation work meshed into the Grazing Service program with the smoothness of shifting gears from second to high. In the words of Director of Grazing Richard H. Rutledge, "all this adds up to better ranges, more and better livestock, clearer streams on our watersheds, and a more prosperous livestock industry."

* * *



LEE MUCK

Assistant to the Secretary of the Interior in Charge of Land Utilization

LEE MUCK HEADS NEW OFFICE OF LAND UTILIZATION

Mr. Lee Muck, formerly Director of Forests for the Department of the Interior, has been designated by Secretary Ickes as Assistant to the Secretary in Charge of Land Utilization to head the program of soil- and moisture- conservation set up in the Department of the Interior under the President's Reorganization Plan No. IV.

Soil- and moisture-conservation activities authorized under this plan are administered by the various bureaus and agencies of the Department responsible for the administration of the respective categories of land under Interior Department jurisdiction.

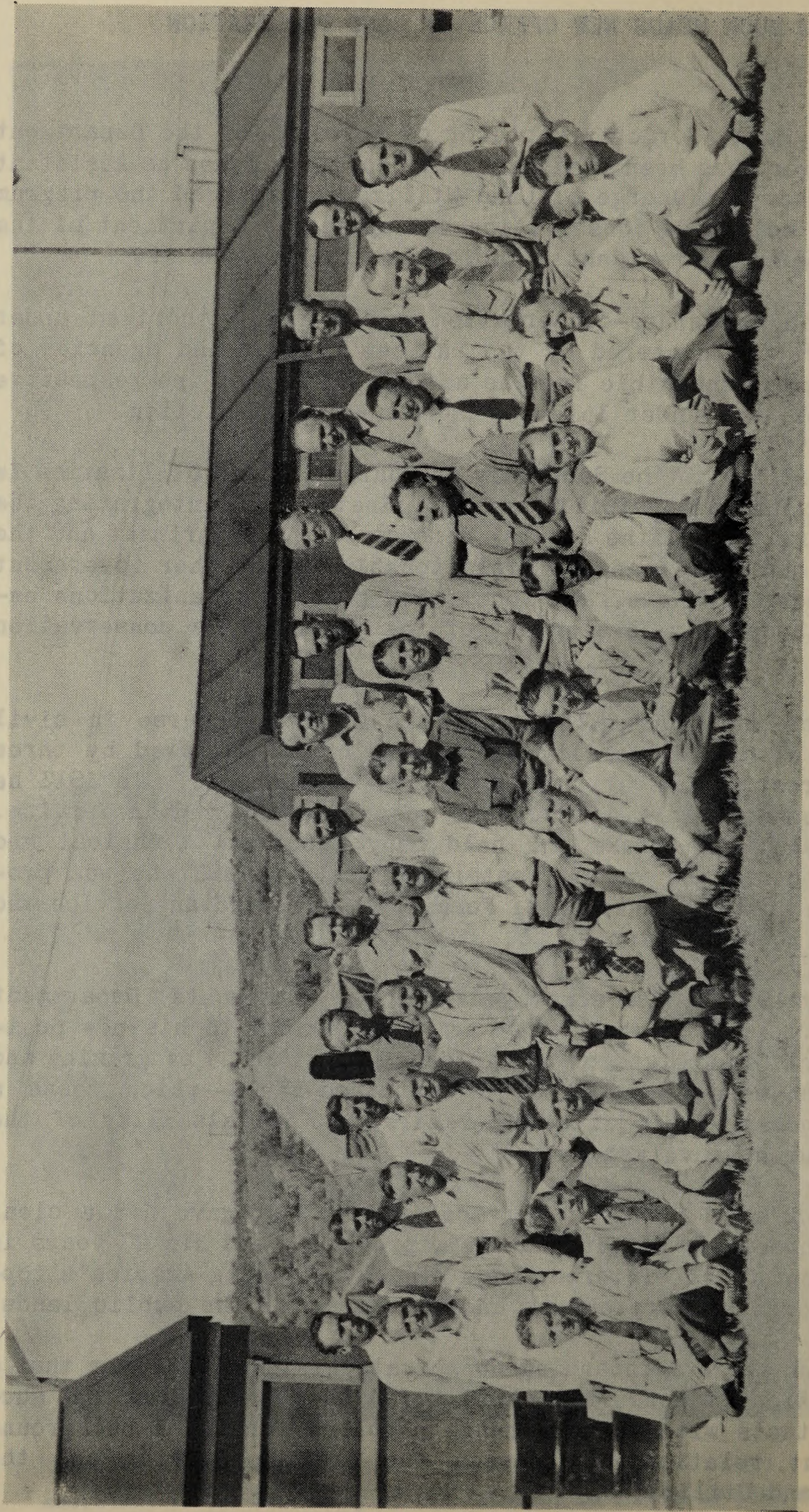
The Assistant to the Secretary in Charge of Land Utilization is charged with the responsibility of coordinating and integrating the land-use activities of the several bureaus of the Department and the supervision and maintenance of relationships with other government agencies (Federal, State, and local) and private organizations essential to the proper development of the Department's conservation program.

Mr. Muck was born in Wisconsin in 1886. A course in civil engineering at the University of Wisconsin was followed by three years of forestry work at the University of Michigan. In 1913 he entered Government work as a forest ranger in the Indian Service. He rose through the ranks and held many important technical and supervisory positions in the western States. In 1937 he was promoted to the post of Director of Forestry in the Indian Service and transferred to Washington, D. C.

In July 1939 he was appointed Director of Forests, Department of the Interior, from which post he was elevated to his new position. Under his supervision and guidance large areas of grazing and timber lands were operated on a sustained-yield--which means a sustained-income--basis with due regard for the stability of the public resources involved.

Mr. Muck's 24 years of service in the West gave him a clear understanding of the people and their problems, and his 27 years in the Department of the Interior have placed him among America's top-flight authorities on problems and resources of the public lands.

Mr. Muck is an outstanding conservationist who believes that a good definition of conservation is "wise use." His long and successful contacts with western range problems furnish a background for pleasant relationship between the Grazing Service and the Office of Land Utilization.



Assembled for the Mud Springs Training Conference are, front row, left to right, Leon R. Nadeau, Emil Blankenagel, Russell B. Rose, Stewart Kern, Paul H. Crouter, Albert H. Shunk, Warren J. Grey, Jim Anderson, Donald Z. Robins, Martin Buzan; center row, Delon Olsen, Boyd S. Hammond, C. W. Griswold, C. P. Seely, R. H. Rutledge, A. D. Molohon, Hugh M. Bryan, A. W. Magleby, Bryant S. Martineau, M. H. Galt, Charles C. Parsell; back row, J. Frank Morgan, James O. Beck, Vern Peterson, L. A. Merryfield, Dale C. Naylor, Huling Ussery, Milton A. Oman, E. E. House, Kelso P. Newman, Dewane R. Jensen, Ira J. Fyock, Ed Pierson.

GRAZING SERVICE FIELD TRAINING CONFERENCE
HELD NEAR PRICE, UTAH

The first field training conference of the Grazing Service, organized to standardize and improve methods in the management of Federally owned range lands in grazing districts under the provisions of the Taylor Grazing Act, was held September 9 to 28, 1940.

With a 180,000-acre block of typical range land in central Utah selected as their "study area," 26 district graziers and range examiners gathered for the 3-week meeting, bringing with them a variety of problems relating to range administration and control in the ten western "grazing" States.

Striving for coordination of field procedure throughout the Federal range territory many problems of grazing district administration were studied and analyzed from every angle. With full realization of the important part played by the local administrator in the management of public grazing lands and of the many different problems with which he is confronted, the conference program was geared to open-forum discussion, interchange of ideas for criticism and analysis, and solution of actual range problems found within the "study area."

Director Opens Meeting

R. H. Rutledge, Director of Grazing, was present for the opening session of the conference and delivered a stimulating, introductory address. He expressed belief that the time is coming when grazing will be considered the legal use of lands chiefly valuable for that purpose and there will be a permanent classification of lands as forage-producing. Pointing to the principal aims of the Grazing Service in the conservation and rehabilitation of the public domain of western United States, he stressed the importance of systematic and just range control by the local administrator out on the range. He praised the elected advisory-board system authorized under the Taylor Grazing Act from which the Grazing Service receives the practical and businesslike advice of experienced stockmen.

Mr. Rutledge stated that with trained men on the job any task is well under way. All persons must secure training in an organization either over a long period of service at great cost to the organization, or over a period shortened by such training meetings as the one held at Mud Springs. Since really good administration can result only from a thorough knowledge of the fundamentals of any organization, the Director expressed confidence that the conferees would take full advantage of the opportunities afforded by the training camp.

Program of Conference

Following the address by Mr. Rutledge and other introductory material, the conferees launched into a full, well-planned schedule devoted to each of the following phases of grazing district administration:

Public Relations -- to keep the public informed of Grazing Service activities, plans, and objectives; to seek public support by presenting a complete, true picture of these accomplishments; to cooperate with individuals and groups who seek the same conservation objectives.

Operations -- involving matters of organization, personnel, funds, equipment, et cetera.

Range Management -- utilization of range resources in keeping with carrying capacity, proper use, et cetera; orderly management of grazing districts; range surveys; rules and regulations; and the issuance of licenses and permits.

Lands -- readjustment of the present complicated land-ownership pattern by negotiation, agreement, exchange, and lease, with the ultimate objective of putting arid lands to the most beneficial use.

Improvements -- development and maintenance of structural improvements as aids to range management, involving the proper placement, type, and construction method.

Soil Protection -- protection of the soil against destructive elements such as wind and water by maintenance and encouragement of the vegetative forage when occasion demands.

Range Management Plan Prepared for Study Area

Culminating the conference discussions which were guided by the above fundamentals of good range administration, and following a series of inspection trips over the study area, each of the six squads into which the conferees were divided was asked to write a range-management plan for the locality.

By thorough examination and inspection, discovering the cause and effect of soil and forage depletion in certain sections, they planned ways to bring about a gradual, lasting improvement and rebuild the range resource to its normal condition; through shifts and changes of season and amount of use they planned the harvesting of the forage crop on a sustained-yield basis in order that the resource might improve under use; they sought and found the proper location and type of range improvements needed to utilize properly the forage during specified seasons of the year.

These range-management plans also included a solution of local land problems--stock driveway locations, joint use by livestock and wildlife, wildlife regulation and protection, highway rights-of-way, homestead and exchange applications, et cetera.

A fire-control program was outlined, after determination of the fire hazard and risk, setting forth the proper technique of range-fire control, reliability of reporting systems, use of Civilian Conservation Corps fire-suppression forces, and proper training and equipment.

An examination of forage types, soil conditions, precipitation records, past-use history, and other related phases of grazing use of the land and the results of individual problem-studies formed the basis on which the final range-management plans were built.

The combined plans brought to light the fact that the total range use in the Mud Springs area is not in excess of total proper use but that in certain areas misuse is evident.

Mud Springs Camp Site Selected

The range in the vicinity of the Mud Springs camp site, 18½ miles southeast of Price, Utah was selected as the study area because it is typical western range country, because it produces forage and presents problems common to grazing district areas throughout the West, and because of its central location among grazing district lands. The area is used at various seasons of the year by both sheep and cattle which are owned by some large and many small operators. It contains problems relating to trailing and shipping livestock. There is a complex land situation within the area involving State land problems and unperfected and new homesteads. Some range improvements have been made on the lands but more are needed. Certain operators within the area graze their livestock part time on grazing district and part time on nearby forest and patented lands. The area is in close proximity to farms and feed-producing sections.

A CCC side camp was at one time located at the Mud Springs camp site and further Civilian Conservation Corps range improvement activities will again be carried on from this point in the future. The site is located on the open range.

With such an area selected as their workshop the conferees were faced with problems involving range management, range improvement, soil protection, proper land-use, et cetera--problems which typify many of the situations found in their own districts throughout the States of Nevada, California, Oregon, Idaho, Montana, Wyoming, Utah, Colorado, New Mexico, and Arizona.

Results of Conference

This first Grazing Service training camp made it possible for approximately one-fourth of the district graziers and range examiners in the Service to analyze and study range-management problems and exchange ideas and methods tried in other regions. Each of the men who attended the meeting returned to his home region prepared and able to conduct similar meetings.

The intensity of interest and spirit of cooperation, increased knowledge, zeal, and effort on the part of the "students" at the Mud Springs meeting left no doubt but that the objectives of the conference were realized. The conference method used throughout the meeting stimulated participation in the discussions. Actual field work formed a test of ability to analyze and solve similar situations in other grazing districts.

A CCC side camp was at one time located at the Mud Springs camp site which was used as headquarters for the training conference.



FEDERAL RANGE CODE AMENDED TO PROTECT RIGHTS
OF LICENSEES WHO ENTER MILITARY SERVICE

Many young men of the West may be called to military service. To those who in normal times are engaged in livestock raising on the public domain, the Soldiers' and Sailors' Civil Relief Act of 1940 affords full protection of the rights and privileges which they have enjoyed under the administration of the Taylor Grazing Act by the Grazing Service. This protection has been incorporated in the following amendments to the Federal Range Code.

AMENDMENT OF SECTIONS 6 AND 8 OF THE FEDERAL RANGE CODE
TO MEET REQUIREMENTS OF THE SOLDIERS' AND SAILORS'
CIVIL RELIEF ACT OF 1940

Pursuant to sections 2 and 3 of the Taylor Grazing Act of June 28, 1934 (48 Stat. 1269), as amended, and sections 501(2) and 507 of the Soldiers' and Sailors' Civil Relief Act of 1940 (Pub. No. 861, 76th Cong.), the Federal Range Code 1/ is amended as follows:

Section 6 2/ is amended by inserting the following new paragraph as paragraph d:

Par. d. Suspension of Licenses and Permits under Soldiers' and Sailors' Civil Relief Act of 1940. Any licensee or permittee who enters military service, as defined in section 101(1) of the Soldiers' and Sailors' Civil Relief Act of 1940, may elect at the beginning of or at any time during the period of such service to suspend his license or permit, in whole or in part, for such period and six months thereafter, subject to the following:

(1) The licensee or permittee shall file with the regional grazer an application, in triplicate, the original of which shall be sworn to before a notary public or other officer authorized to administer oaths in the State in which the applicant resides, or before the officer in immediate command and holding a commission in the branch of the service in which the applicant is engaged, which shall set forth the facts and circumstances upon which the application for suspension of the license or permit is based. If the applicant desires the suspension of a license or permit in more than one region a separate application shall be filed with the regional grazer for each region.

(2) Upon approval of the application the suspension shall be effective for the period involved, unless sooner terminated upon further application to the regional grazer by the licensee or permittee, and no operations under the license or permit to the extent suspended shall be conducted during such period.

(3) No grazing fees will be assessed under a license or permit to the extent and during the period it is suspended and, upon the approval of an application for suspension, any fees that have been paid for the period of suspension will be refunded and any fees that are or may become due for such period will be remitted.

(4) A special temporary license, to the extent of any grazing privileges suspended, may be issued to another applicant for the period of such suspension, but upon the termination of the suspension, either by reason of the expiration of the six months' period following the conclusion of the first licensee's or permittee's military service or by reason of an application by the first licensee or permittee for an earlier termination, such a temporary license shall be revocable as of the beginning of the grazing period next following the termination of the suspension.

(5) No suspension granted hereunder shall entitle a licensee or permittee to any greater privileges subsequently than those to which he would have been entitled in the absence of a suspension.

(6) Any adverse action by the regional grazer on an application for suspension or termination thereof may be appealed by the applicant to an examiner of the Grazing Service, and from his decision to the Secretary of the Interior. The procedure in such appeals shall conform as nearly as practicable with the procedure defined in section 9 of the Federal Range Code. 3/*

Section 6 is further amended by relettering old paragraph d as paragraph e.*

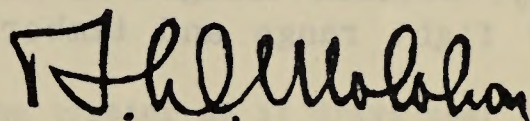
Section 8, paragraph f,4/ is amended to read as follows:

Par. f. Refunds. No refund of fees properly paid will be made because of a failure to use the grazing privileges, either in whole or in part, represented by a license or permit, except that:

(1) During periods of range depletion due to severe drought or other natural causes or in case of a general epidemic of disease during the life of a license or permit, the Secretary of the Interior will in his discretion remit, refund, reduce in whole or in part, or postpone the payment of fees for such depletion period as long as the emergency exists.

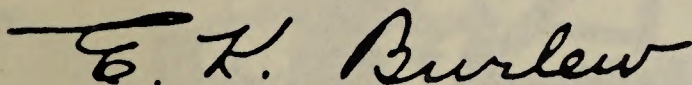
(2) When fees have been paid which are not required by law, or in excess of lawful requirements, an application for refund may be made under the provisions of the act of June 27, 1930 (46 Stat. 822; 48 U.S.C. 98a).

(3) When a license or permit is suspended under section 501(2) of the Soldiers' and Sailors' Civil Relief Act of 1940, any fees that have been paid for the period of suspension will be refunded and any fees that are or may become due for such period will be remitted.*



Acting Director of Grazing.

Approved: December 5, 1940.



Acting Secretary of the Interior.

1/ 43 C.F.R. Part 501

2/ 43 C.F.R. 501.6

3/ 43 C.F.R. 501.9

4/ 43 C.F.R. 501.8(f)

*Secs. 501.6(d) and 501.8(f) issued under the authority contained in secs. 2, 3, 48 Stat. 1270-1272; 43 U.S.C. 315a, 315b; and secs. 501(2), 507, Pub. No. 861, 76th Cong.

* * *

Note.--Application blanks are available at regional and district offices to those having a grazing license and desiring to make application for suspension under the Soldiers' and Sailors' Civil Relief Act of 1940.

CCC ENROLLEES OFTEN PLAY THE ROLE OF GOOD SAMARITAN

The activities of enrollees in Civilian Conservation Corps camps assigned to the Grazing Service are directed principally toward a well-planned program to conserve and rehabilitate western range areas. By the development of stock-water facilities on arid ranges they are making possible proper utilization of the natural forage cover; by the construction of stock trails inaccessible areas of grazing land are being opened to use by livestock; by the eradication of rodents and poisonous plants and by the reseedling of overgrazed and eroded areas they are bringing about maximum use of our western ranges. It is for conservation work of this kind that the Civilian Conservation Corps receives wholehearted national approval.

Frequently, however, these same enrollees are called upon in emergencies to do a multitude of unusual things. These they do cheerfully, without thought of reward or glory. During the fire season they fight range and timber fires and through their efforts in-

Equipment and men used to build stock trails are also used to open them.



estimable areas of valuable forage are saved for livestock and wild game. During heavy winter snows livestock and wildlife often are caught in an icy trap and roads must be opened and feed hauled to prevent starvation. Enrollees are often asked to aid in the control of flood waters, search for lost persons, and accomplish many other varied and unusual tasks.

For example, last year a tornado of tremendous proportions struck near the town of Gooding, Idaho, demolishing farm buildings, injuring people, damaging crops. Twenty-five men from the Grazing Service camp at Wood River went to the aid of the local population by removing debris, reconstructing fences to control livestock, and assisting in the rehabilitation of the stricken area.

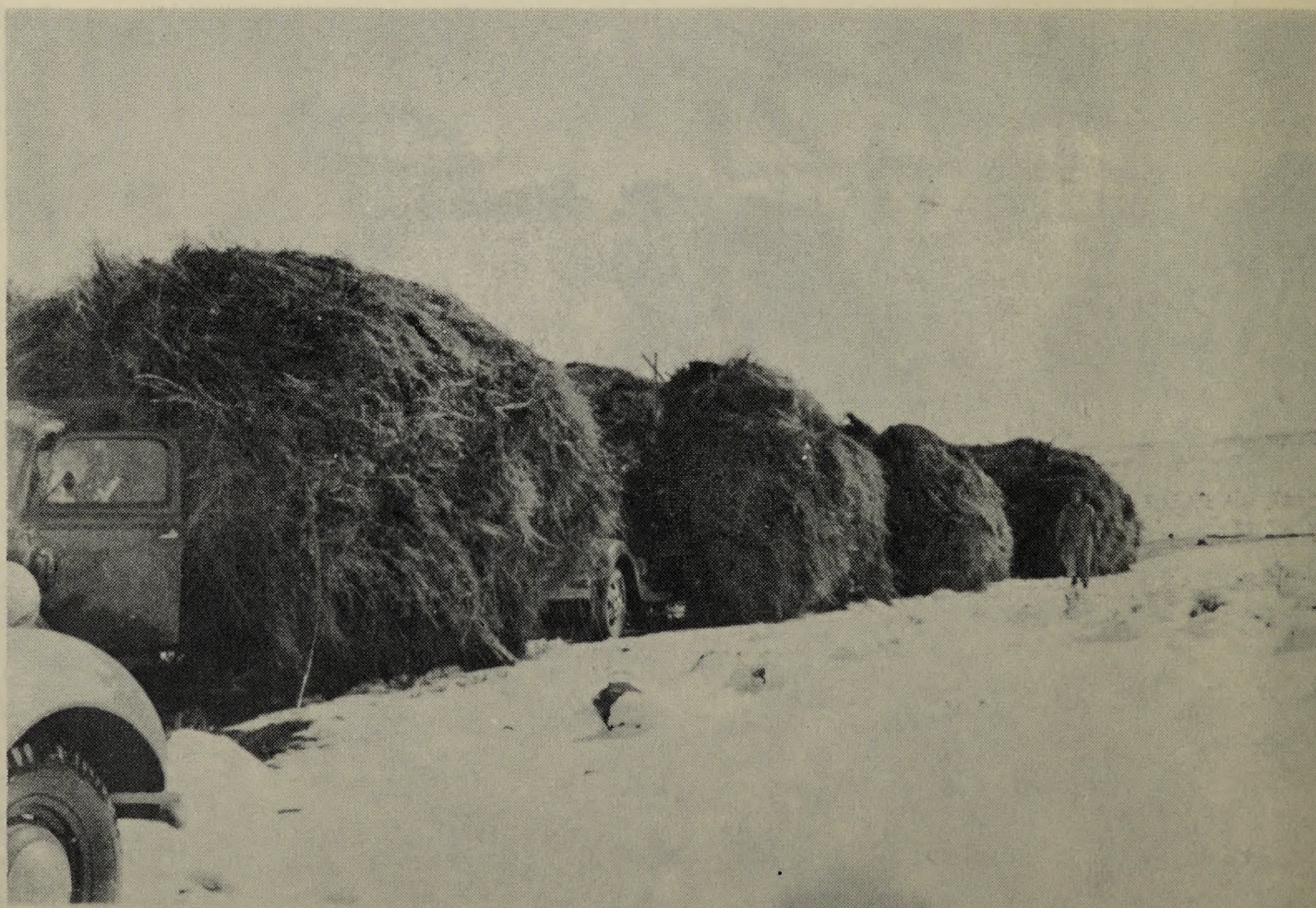
When fire broke out in the town of Delta, Utah, not many months ago it seemed likely that half of the town would go up in flames because the nearest fire-fighting equipment was 100 miles away. Then someone remembered the CCC boys. The call for help was quickly answered. Enrollees from a nearby Grazing Service camp, under the guidance of their foremen, quickly formed a bucket brigade and the fire was brought under control.

Hungry cattle follow closely behind the tractor as it draws near the source of emergency feed supply.



Last spring enrollees from a camp near the town of Baggs, Wyoming, drained ponds formed by melting snows to remove the hazard of disease caused by swamps and stagnant water. This same camp kept open the roads used by the school bus and the mail trucks to make their routine trips.

During severe winter snow storms and sub-zero weather quick action and untiring effort are necessary to prevent loss of livestock and mitigate human suffering. On one occasion in the Uinta Basin area in eastern Utah a sick, snowbound family living in an isolated section was saved from freezing and starvation by crews from a Grazing Service camp that worked day and night to reach them. Described as the worst storm in 75 years, with temperatures ranging to 38 degrees below zero and badly drifted snow, men from the camp broke trail, carrying feed and supplies with them. Said one rancher, in thanking the enrollees for their help, "We would have had to go out of business if it had not been for the help we received from the CCC camp during the storm. I commend them for their efficiency and good judgment."



Hay is hauled to sheep trapped by snow on the range. Last year stockmen in one grazing district alone valued this service at thousands of dollars.

SPECIAL LAND-USE PERMITS

New regulations permitting special use of portions of the public domain not heretofore specifically covered by Federal law were approved by Secretary of the Interior Harold L. Ickes on November 19, 1940, upon the recommendation of the Commissioner of the General Land Office.

These regulations are designed to permit use of the public lands in the interest of both National Defense and conservation. Authority to issue special land-use permits for public lands within or outside of grazing districts for purposes other than grazing is found in Section 453, Revised Statutes (43 U. S. C., sec. 2).

In keeping with the policy of the Secretary of the Interior to provide for the most beneficial use of the public lands, the permits for special land-use will be issued for purposes not specifically provided for by public land laws, when such special-use permits will not invoke or conflict with any other Federal or State laws.

The issuance of these permits, both within and without grazing districts, will facilitate the administration and will meet a long-felt need in proper land-use planning and administration. The Grazing Service considers that these special land-use permits can be adapted so that they will apply to requests for special uses on Federal lands that will enable the various administrative agencies to give a better public service along the broad lines of conservation as set down by the Department and will have special application as to uses such as civilian target ranges, municipal garbage dumps, apiaries, commercial fur-farming enterprises, administrative sites for other Federal agencies of the Department of the Interior or even other Departments outside of the Interior, contact and travel-checking stations in cooperation with States for hunting permits, powder- and cap-storage houses, storage sites for other Federal agencies, and special recreational areas for individuals that are not covered by existing legislation.

Stipulating conditions under which the special-use permits will be granted, the regulations provide that an application, accompanied by a \$5 filing fee, may be filed in appropriate district land offices by any person over 21 years of age who is a citizen of the United States or who has declared his intention to become a citizen, or corporations or other groups authorized by law to conduct business. Government or State agencies are relieved from the payment of a filing fee and, in the case of an individual, the fee is returned if the special-permit application is rejected.

Other sections of the regulations provide that no occupancy of the tract sought will be allowed prior to the issuance of the special permit by the General Land Office; $2\frac{1}{2}$ acres is the smallest subdivision of the public domain for which a special-use permit will be issued and a permit will not be issued for more than 5 acres except upon a showing of special need; permits shall be granted for not exceeding 5 years subject to preference for renewal at the end of that period; annual rental of not less than \$5 per annum shall be paid on a sliding scale based on the value of the land for the use to which it is to be put. As in the case of the filing fee, Government and State agencies are relieved from the payment of rental for the lands.

Placing additional safeguards upon the use of the land in accordance with conservation and National Defense policies, the regulations provide that the special permits may be revoked by the Secretary of the Interior whenever the rules have been violated, or when a better use for the land has been determined. Meantime, the lands will be subject to applications for use under nonmineral laws and shall at all times be open to prospecting for minerals, exploration for objects of antiquity on the public domain, and for rights-of-way under existing laws.

Timber cannot be removed from the tracts covered by the special permits unless authorized under laws and regulations covering the removal of timber from public lands. The permits cannot be assigned by the holder to another without the approval of the Secretary of the Interior.

Holders of the special permits will be permitted to remove improvements from the land upon revocation or expiration of their permit, but, if rental for the tract is delinquent for 30 days, or the holder fails to remove the improvements they become the property of the United States.

In case of revocation of a permit, no refund of rental payments will be made.

Procedure for handling applications for special land-use permits on public lands within grazing districts, will be governed by the following memorandum of understanding between the Grazing Service and the General Land Office.

MEMORANDUM OF UNDERSTANDING BETWEEN
THE GENERAL LAND OFFICE AND THE GRAZING SERVICE

November 19, 1940.

The following instructions will govern actions by the General Land Office, the Grazing Service, and their respective field offices on applications for special land-use permits for public lands in grazing districts:

Action on applications by register. The register, upon receipt of an application for a special land-use permit will assign a serial number thereto and have appropriate notations made on the records of the district land office. If the application is not properly executed, the register will reject it.

The register will transmit the original application, together with a statement showing the status of the land involved, to the General Land Office by special letter, and will transmit the duplicate thereof to the proper regional grazier.

Action by regional grazier. The regional grazier will examine the lands involved and will report, in duplicate, to the Director of Grazing whether the proposed use would interfere with the administration of the grazing district or whether any other objection exists to the issuance of the permit, and if so the facts as to such interference or objection.

If the regional grazier is of the opinion that a special land-use permit should be issued, he will include in his report a statement as to the provisions and conditions which should be incorporated in the permit. The report should include a recommendation as to the term for which a permit should be issued and the rental fee which should be charged.

Action by Grazing Service. The Director of Grazing will transmit to the General Land Office the duplicate of the report of the regional grazier, with such further report and recommendation as he may deem appropriate.

Action by General Land Office. Upon receipt of the report from the Director of Grazing, the General Land Office will issue a permit, if the report is favorable, and no objection to such issuance is shown by the records. If the report is not favorable, and the General Land Office concurs therein, it will reject the application. If the General Land Office does not concur in the report, the questions presented will be submitted to the Secretary of the Interior for a decision.

The Commissioner will not issue a special land-use permit in any case until the Director of Grazing has reported that the permit, if issued, will not interfere with the proper administration of the grazing district.

Field administration. The Grazing Service will be expected to supervise in the field all special land-use permits issued in grazing districts. It will be the duty of that Service to report, through the proper channels, all cases of insufficient use, non-use, or misuse of the lands, and other pertinent information to the General Land Office.

* * *

ORIGINAL NEW MEXICO BOARD BEGINS SIXTH YEAR IN OFFICE

The advisory board of the Magdalena Grazing District (New Mexico No. 2-B) is a shining example of public service and co-operative effort. The men serving on that board are the seven original members who were elected to represent the stockmen in that district in 1935. Their reelection year after year is a splendid tribute to the excellent work and cooperation of these seven men.

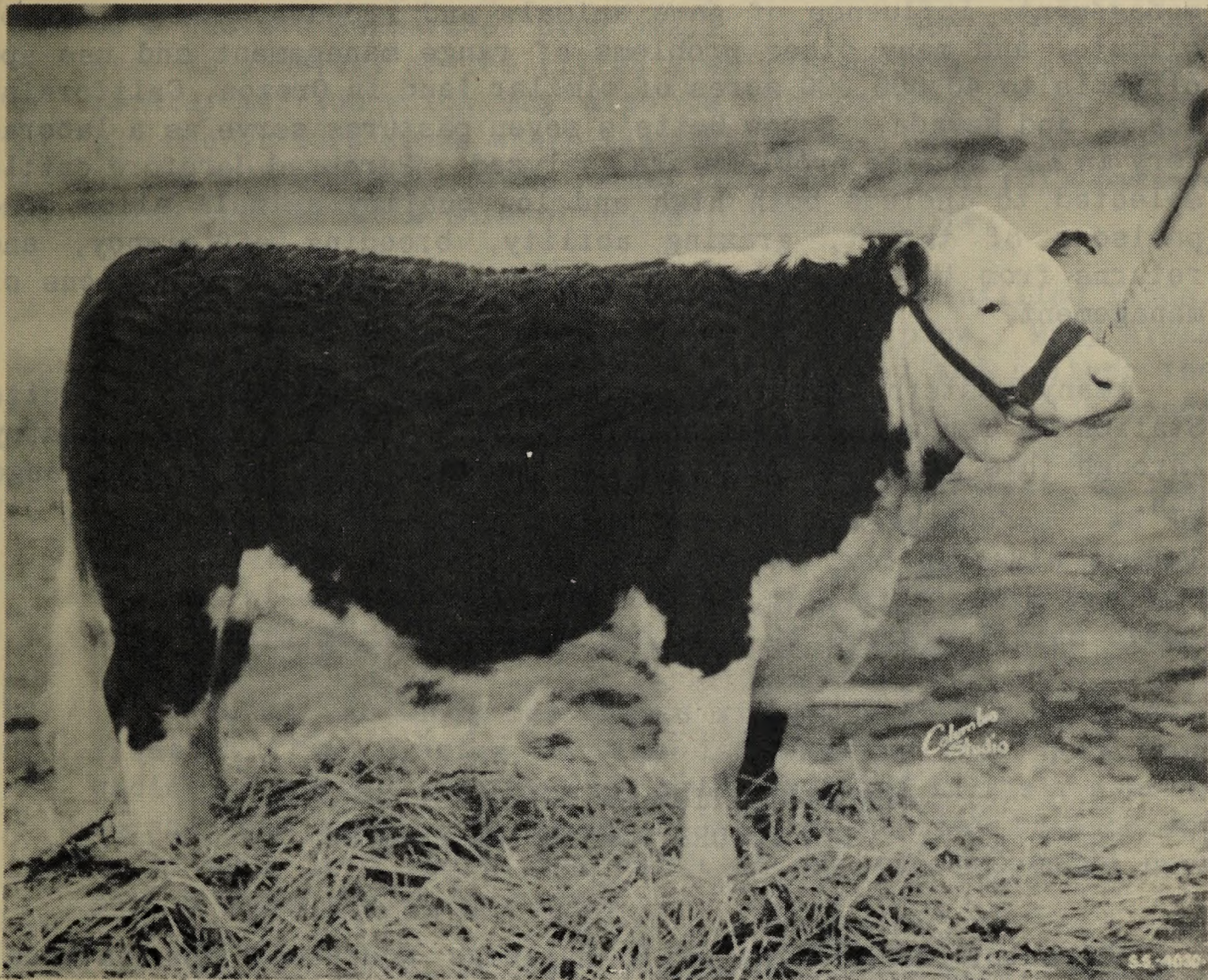
Of the original 61 board members elected in 1935 to serve on the first six New Mexico grazing district boards, all but 17 are still serving on boards in that State.

The record of the New Mexico boards is similar to that established in many other "grazing" States. The contributions of all board members who have given freely of their time and effort during the past 5 years have played an important part in the administration of the Taylor Grazing Act. The significance of the continuity of service on the Magdalena and other boards may be said to represent (1) good service on the part of the elected representatives of the livestock industry, (2) an appreciation of that service by local stockmen, and (3) a job in the management and conservation of the public lands that is worthy of the donation by the advisory board members of their time and effort beyond any hope of personal reward.

* * *

LIVESTOCK WILL USE HISTORICAL TRAIL RECENTLY RESTORED

The famous old Pony Express route which traverses Federal grazing district areas has been restored as part of the Grazing Service program to open new areas of Federally owned land to grazing, to improve these ranges, and facilitate the movement of livestock from summer to winter range. Cooperating with the Utah Pioneer Trails and Landmarks Association and the Oregon Trail Memorial Association, Civilian Conservation Corps enrollees assigned to the Grazing Service camps at Callao and Simpson Springs, Utah, have constructed 96 miles of livestock and truck trails from old Lookout Pass to the Nevada State line, and along the route have constructed eight monuments upon which were placed the bronze plaques to mark the trail which were furnished by the cooperating pioneer trail associations.



CHAMPION SQUAW BUTTE ANIMAL

This steer, owned by the Oregon State Agricultural College and raised at the Squaw Butte Range Station, Oregon, was selected as champion Hereford steer of the 1940 Pacific International Livestock Exposition at Portland, Oregon. Born in May 1939, he weighed 970 pounds at the time of the show in October 1940. This steer, together with one other steer from Squaw Butte and one steer raised at the college herd at Corvallis, composed the first prize Hereford steer herd at the 1940 Pacific International Exposition.

This prize-winning animal represents the fact that purebred stock of the right kind can be expected to do well under ordinary range conditions since the 16,000-acre study area at Squaw Butte includes representative dry range typical of much of the range of the West.

The Squaw Butte Range Station, operated by the Grazing Service with the cooperation of the Oregon State Agricultural College, undertakes the study and analysis of practical problems which directly affect livestock operations and range welfare. Practical

data are gathered on range restoration, water development, cattle management, influence of game animals and rodents, the effect of climate, and many other problems of range management and use applicable to 40,000,000 acres of similar land in Oregon, California, Idaho, and Nevada. Squaw Butte's seven pastures serve as a laboratory in which these problems are analyzed. Purebred Hereford cattle selected to include both high and low quality animals allow comparisons of thrift, grazing ability, breeding efficiency, and returns from the two types of cattle under the same conditions of management.

Many western livestock operators agree that the Squaw Butte Station is rendering invaluable service to the livestock industry through this practical approach to everyday problems of the range man.

* * *

CLASSIFICATION OF GRAZING LAND FOR ITS FUTURE USE AND MANAGEMENT

Director of Grazing R. H. Rutledge addressed the National Conference on Land Classification at the University of Missouri, Columbia, Missouri, October 10-12, 1940, on the "Classification of Grazing Land for its Future Use and Management." Excerpts from Mr. Rutledge's address are printed here.

Range land, as distinguished from pasture land, may be defined as areas within certain limits of average forage production which are available to animals grazing at large under such control as their owners or the landlords prescribe or provide. Range has another connotation. As other uses have been segregated, a residual quality is intimated. Range grazing lands, therefore, are areas where other forms of land husbandry are less suitable. Grazing lands have many joint uses which may be highly important. Grazing may aid such uses or hinder them at a minimum. Grazing land may be shaded and protected by trees or cover deposits of oil, coal, or other treasures.

It requires a tremendous amount of classification to establish which are the grazing lands of a nation. Their great extent determines the size of the task, but the principle can be found in a small area.

Good farming usage is leading more and more to a program of a pasture as part of even small farms. Such a plot, given over to grazing, may be (1) an area self-chosen as a rougher, rockier portion which may also be the woodlot of the farm; (2) one or more areas where the advantageous use and protection of the land calls for grass rather than the plow; or (3) a pasture which the farmer's form of operation may require.

For similar reasons the nation needs its untilled lands. Rough, dry watersheds are forbidden to the plow. Many areas which give us much concern have been plowed and neither the land nor the operator has prospered. The neighboring lands have been adversely affected and a disillusioned people have become a national concern. We have no excess of meat, as lamb chops and beefsteak may appear on more dining tables. We import no small part of our wool, hide, and goatskin supply. The operation of the United States as a giant farm may well tend toward more livestock and less of certain tilled crops.

The use of lands may change without a change of classification. The Grazing Service is teaching that some less choice, irrigated pastures may better be used in their growing season than maintained as haylands. In this way balance may be brought into operations which at one time depended upon public lands for summer grass.

Changes in the results of classifications should normally follow only the slow advance of experimentation in use and scientific research.

Our western States contain a billion acres whose highest immediate uses are to gather and dispense such moisture as falls upon them and to furnish beef, lamb, wool, and game for the nation. They now produce per acre, more cattle and sheep than the balance of the lands of the United States. The amount and protection of this value to the nation is the chief concern of the classification on grazing lands. There are many kinds and qualities of grazing lands which may best be distinguished by examination. Such an examination will also show what areas should be put to other purposes, including wildlife and recreation; what areas should receive little or no grazing; and what other uses should accompany grazing to gain proper land use.

In the classification of grazing lands we receive basic information from two sources:

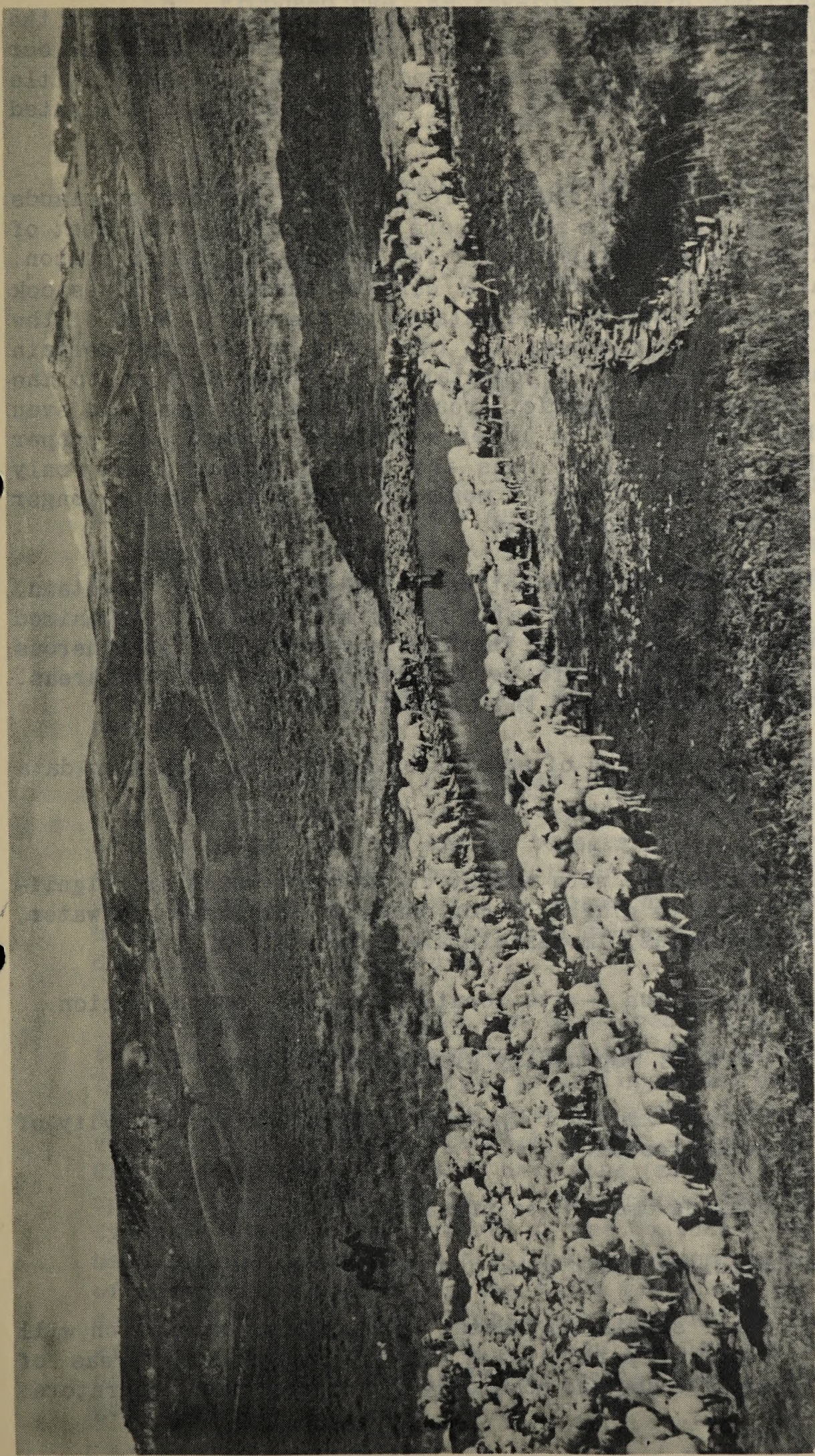
First, practical information and principles of livestock management established by an industry which is 80 years old in most of the West and 400 years old in the Southwest. This information may be obtained from livestock owners and from cowboys and shepherders who are in daily contact with livestock and the range.

Range livestock move from valley in winter to mountain in summer with even greater freedom than wildlife, as they are not limited in their movements by elements of fear. Livestock move with developing forage, with threatening snows, and with completed use of various areas. We have a direct lesson from those movements and from the men who design them. These men have devoted their lives and risked their assets in discovering such forms of range use.

Livestock operations which have been carried on by conscientious operators, fortunate enough to be only slightly disturbed by faulty land patterns, trespassing by other livestock, financial stumbling blocks, et cetera, are a good lesson for the student of the range. The best and often the most lucrative operations are based on high principles of conservation of natural resources, joined with careful and skillful handling of livestock and equipment. Experience of competent and observant administrators of range and the counsel of advisers from the livestock industry also form an important accumulation of facts and principles of range and its use.

Second, the sudden responsibility of managing range areas and the vast extent of such lands necessitated a formal system of range examination. Mr. James T. Jardine, formerly with the Forest Service and now in charge of Experimental Stations and Research for the Department of Agriculture, introduced a method of inventorying forage resources. Jardine's original conception was of a method to assess relative carrying capacity and plan good use. He proceeded almost immediately to the estimation of positive grazing values. Examinations of range have been carried on since 1910 under a variety of names of which grazing reconnaissance was most common, and were later dignified by the name "Range Surveys." It is only in western United States that inventories of vegetation are used in planning range management. The Federal Government initiated this form of land classification. We are glad to see it spreading to State and other land-managing bodies.

There are two elements in range surveys: First, the examination of private lands associated with public range, and, second, the examination of the public range itself. The program for future use and management of our range areas must be



The Grazing Service has developed many and varied stock-watering places on Federal range areas. This particular development in the Upper Gunnison country of Ouray Grazing District, Colorado, is unique in that it consists of a simple excavation which brings to life and collects the flow of latent springs. Inexpensive and practicable, this type of development has been duplicated throughout the Gunnison area where approximately a half million acres of arid range have been made available for economic spring-fall grazing use.

very carefully arranged to allow for the proper interuse of the varieties of areas in kind and control which make up our western States. Many farmers and hay ranchers have little other opportunity to use their highly developed irrigated lands.

There is a very natural relationship between croplands and grazing lands. In areas where winters are severe, most of the livestock are gathered and fed during the winter season. Mountains furnish feed for a certain season and livestock require other homes for the balance of the year. Much of the foothill and lower ranges are best used only during certain seasons of the year. A computation has been made as to the use of the grazing district areas of eastern Oregon, and even now, while the range is under adjustment toward its proper use, the average animal uses the desert public lands only 3-6/10 months out of the 12 months of the year. For a longer period it is on private land.

The program of examination of large tracts of mountain, foothill, or desert lands calls for work by specially organized and equipped field crews. The examiners must camp in numerous places on range areas to be in positions to see the areas. They require guidance of the highest type.

In an examination of an area of range, the following data are sought:

1. Land Form, with accent on features which are significant to grazing. For example: drainage and water, mountains, impassable areas, et cetera.
2. Vegetation -- its location, amount, and condition.
3. Culture, especially grazing facilities.
4. Generalized soil types and the extent and activity of soil erosion.
5. Grazing Use -- its present form and degree.
6. Wildlife, both game and destructive elements.
7. Other significant data; for example, data which will lead to partitioning of the range into areas of similar use and community of interest among operators.

8. Proposed Use, as regards numbers and class of stock to be grazed, the season and conditions of use.
9. Proposed Facilities and Operations to effect good husbandry of the areas.

The basis of management of large areas is necessarily by maps. The map situation governs the kind of surveys to be made. If it is necessary, as is commonly the case, to make maps, there are three kinds of surveys which will effect that end:

First - Gridiron Surveys
Second - Resection Surveys
Third - Traverse Surveys

The intensity of the survey is determined in advance, after consideration of the quality of the range and the complications of the grazing situations involved. Areas of higher grazing capacity deserve more intense examination. A good rule is to devote equal time to equal aggregates of forage. Areas of relatively low carrying capacity may be examined more rapidly, but, if mapping of topography and culture is part of the survey, less valuable areas may require equal or more time and attention.

Where good maps or aerial photographs are available, standard procedure is to make random surveys. The examiner locates himself on his map by topography or cultural features or on an aerial photo by objects on the ground which he may distinguish on the photos. He moves over the area, locating himself on the map or photo, and makes his grazing notations directly on one or the other.

Vegetation is mapped and described. Its nature is determined and amounts assessed by units of area called Grazing Types or Subtypes. Each type is distinguished by a designation which portrays the primary species which make up the local vegetation. Nineteen standard types, such as Grassland, Creosote Bush, and Woodland, have thus far been mutually agreed upon by governmental agencies. The Grazing Service uses three types in the arboreal deserts of the Southwest which thus far have not been needed by other land-management agencies. Items of information concerning the range are shown on maps and on description forms where spaces are provided to encourage the examiner to note a variety of required information. He has nothing else to interest him en route, except the hope of a good supper.

The range forage is estimated by processes and formulae which arrive at an estimated acreage of available, complete, and wholly acceptable vegetation. The unit for the expression of this conception is the forage acre. The basic formulae are:

Density x composition x palatability = forage factor.

Forage factor x area in acres = forage acres.

Field methods and processes are described in detail in "Inter-agency Instructions for Range Surveys" of April 24, 1937.

Surveys of controlled areas where the kind and the amount of use are known and proper, show the relationship between forage acres and carrying capacity. This relationship is the forage acre requirement. The Jardine method of inventorying range is based on actual, proper use of range areas.

We have had, then, only one basic method of establishing carrying capacity. It is the result of trial and error which has produced proper use. What is learned in those areas is extended to areas of unknown use by similar surveys of adjacent and similar areas. If similar surveys are made, in everwidening circles, the forage acre requirements may be established for large areas, various vegetation types, and even widely extended life zones.

Where there is great movement of livestock, and where few if any areas may be found of known and proper use, we are forced to a second approach to carrying capacity. For this method we are dependent upon the same kind of judgment that is used by stockmen in establishing the amount of use which may still be taken from an area and the amount of excess use which is being or has been made. The stockmen are guided by life-long observations and experimentations with livestock and range.

At a certain point in the current use of range, the situation is correct from all viewpoints. This may be called "proper use." With more use it is advisable to discontinue grazing for the good of both livestock and range. A third situation is where it becomes necessary to move livestock for the sake of the livestock. Beyond this point, further use is abuse or destruction.

Conditions of current under and overuse have been formulated during the past year into a system for judging degrees of current use. Careful examination is made of many typical, sample areas. A weighted general average can thus be made for large range areas. For certain portions or for all of a range, the gross actual use may be quite accurately known. If, then, we compare the actual count of numbers and time on the range with

the degree of under or overuse, we may arrive at a carrying capacity by a second method.

When there is overuse, two things occur: Plants are grazed in excess of the anticipated use and are deprived of their normal opportunity of growth and reproduction; the second is cumulative elements of abuse which intensify the effect of overuse. It is not now known how much this element increases the factor of overuse. The effect is least when grazing follows the growing season and greatest when new growth is grazed. On the basis of effect on one season's production, it may be considered within the limit of error, which will later be discussed. For the time being, we may say that the corrective factor, to adjust actual to proper use, is that percentage which will change the factor of under or overuse to 100. The carrying capacity is then actual use, increased or decreased by the corrective factor.

Students of the range have long avoided this kind of approach on the ground that there are no measurable elements. Stockmen are constantly called upon to make such decisions and what the stockmen know can be learned by others. The development of this technique is under way and will do much to guide in the correction of stocking of many unimproved and seasonal ranges. It has two advantages: The gross area and gross use are considered and the error of using data from small areas for large tracts is avoided. No element of the other method is involved, so that the second method may be used to check the overall results of the first method.

The estimation of carrying capacity may not be more accurate than the degree of development of forage in an average year. Any precipitation record in the western States shows a wide variation from year to year and from one cycle to another. From the point of view of the practical range man, it appears that our present precipitation represents no cycle but rather an extended drought with some improvement in certain seasonable years. The variations of precipitation are so great that neither with weather records of nearly a century nor with tree-ring records that carry us back one or two thousand years, may we be sure what the norm should be for judging the year of average precipitation.

The compositions of vegetation associations as the examiner finds them on the ground and the precipitation records which he carries into the field are his guide in estimating carrying capacity as of that average year. If he is clever he may so estimate. He still must expect an error that is bound to introduce itself. This error is the variation in forage

growth due to the nature and distribution in the year of precipitation in years of average precipitation. This, then, becomes the limit of error within which any estimation of carrying capacity is correct.

Experience guides us to the conclusion that where vegetation and its use have been carefully studied, a reasonably accurate carrying capacity may be assessed for range areas. Stockmen themselves are not sure of carrying capacity except on controlled areas where they have had the opportunity to try similar numbers of livestock for a series of years. Those are areas that should be studied. Examination can go no further than the industry in plans for the year of excessive drought or extra fine feed. The plan for retaining on the ground a forage reserve from good years and average years will do much to cushion the shock of the "lean years."

The Grazing Service has an increasing number of co-operating stockmen who record movements of livestock among various enclosed areas of their allotments and otherwise aid in the study of correct use of their range lands. A number of them have asked for rain gages so that they might study the relation of precipitation to their operations.

Carrying capacities, subject to change with changing conditions and liable to moderate error, will be accepted gladly by the livestock industry if they reasonably reflect the findings of fair past usage. Stockmen are willing to sit in on any game where others play with a spirit of give and take and where the cards are not stacked against them. They are willing to play for 15 or 25 or even 40 percent of their numbers. They are not willing to concede that they have been wrong by 75 or 150 percent. They maintain that death would have corrected such outrageous abuses of land.

The Grazing Service is planning a program in which the accumulated experience of administrators and examiners may be combined and retained. When this information is reviewed and enhanced by the tried judgment of an industry which is now in the third and fourth generation of range users, we may be able to solve our problems in a reasonable time.

Range management is forced to take hold immediately to maintain the industry while the necessary adjustments are being made. A program of range improvements will permit better husbandry on range areas. Range development, directed toward increased production of good forage and the introduction of new plants by seeding, will have its effect. The complications of the grazing situation due to a land pattern produced by 75 years of land disposition and settlement is forcefully brought

to attention by a range survey. Correction of such situations will hasten good land use. When we have this planned economy to replace the catch-as-catch-can land use methods, which we have witnessed and are still witnessing, we may expect stability of the industry and beneficial use of our western range areas.

* * *

GRAZING DISTRICTS DIVIDED FOR MORE EFFECTIVE RANGE CONTROL

Two additional Federal grazing districts have been established in western United States during recent months to bring the total number to 56. Both of the new districts formerly comprised parts of other districts but were set up as distinct grazing units for more practicable and effective range administration and control.

Colorado Grazing District No. 7 which was established on October 12, 1940, comprises approximately 1,400,000 acres of public range land the greater part of which was formerly within Colorado Grazing Districts Nos. 1 and 3. The two original districts were divided by the Colorado River; however, the river does not form a practical boundary in so far as livestock operations are concerned since summer operations south of the river are in some instances permanently attached to those north of the river. The boundaries of the new district are based upon a natural division of grazing allotments of licensees who conduct their winter operations adjacent to either the Colorado River or the White River.

On December 4, 1940, the division of one of Idaho's largest districts into two almost equal parts was approved. Idaho Grazing District No. 2, set up in 1936, formerly embraced an area of approximately 7,000,000 acres covering parts of eleven counties and extending from Sun Valley southward to the State line. Using the Snake River as a division line two separate and distinct grazing districts, known as Idaho Grazing Districts Nos. 2 and 5, were set up to facilitate range administration and protection and to promote closer contacts between range users and administrative personnel of the Grazing Service.

Typical of all grazing district modifications these changes which were endorsed by local range users and approved by the respective advisory boards, will contribute to more effective and more economical administration of Federal range lands under the Taylor Grazing Act.

A TRIBUTE TO GRASS

Next in importance to the divine profusion of water, light, and air--those three physical facts which render existence possible--may be reckoned the universal beneficence of grass. Lying in the sunshine among the buttercups and dandelions of May, scarcely higher in intelligence than those minute tenants of the mimic wilderness, our earliest recollections are of grass; when the fitful fever is ended, and the foolish wrangle of the market and the forum is closed, grass heals over the scar which our descent into the bosom of the earth has made, and the carpet of the infant becomes the blanket of the dead. Grass is the forgiveness of Nature--her constant benediction. Fields trampled with battle, saturated with blood, torn with the ruts of cannon, grow green again with grass, and the carnage is forgotten. Streets abandoned by traffic become grass-grown, like rural lands, and are obliterated. Forests decay, harvests perish, flowers vanish, but grass is immortal. Beleagured by the sullen hosts of winter, it withdraws into the impregnable fortress of its subterranean vitality and emerges upon the solicitation of spring. Sown by the winds of wandering birds, propagated by the subtle horticulture of the elements, which are its ministers and servants, it softens the rude outlines of the world. It evades the solitude of deserts, climbs the inaccessible slopes and pinnacles of mountains and modifies the history, character, and destiny of nations. Unobtrusive and patient, it has immortal vigor and aggression. Banished from the thoroughfare and fields, it bides its time to return and when vigilance is relaxed or the dynasty has perished, it silently resumes the throne from which it has been expelled but which it never abdicates. It bears no blazonery of bloom to charm the senses with fragrance or splendor, but its homely hue is more enchanting than the lily or the rose. It yields no fruit in earth or air, yet should its harvest fail for a single year, famine would depopulate the world.

--J. J. Ingalls.

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Editor's Note.--The excellent wildlife pictures which appeared on pages 6 and 9 of the September 1940 issue of The Grazing Bulletin were furnished by the National Park Service, Department of the Interior. Omission of credit was by inadvertence.

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